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EXAMINER
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SHEPARD, JUSTIN E

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/084,773  
Filing Date: February 26, 2002  
Appellant(s): KNUDSON ET AL.

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Brian Cromarty  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 3/16/09 appealing from the Office action mailed 10/15/08.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-11 and 13-15.

Claims 12, 16, and 17 have been canceled.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,091,703	Saunders	07-2000
5,918,145	Tanabe	06-1999

US Publication Number 2002/0122511 Kwentus 09-2002

US Publication Number 2002/0087991 Ortega 07-2002

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders in view of Ortega in view of Tanabe.

Referring to claim 1, Saunders discloses an outdoor unit for a satellite ground system comprising:

downlink circuitry operative to receive a satellite signal from a satellite (figure 1), frequency lock to the satellite signal (column 5, lines 66-67; column 6, lines 1-4), process the satellite signal (bottom half of figure 2), and provide the processed satellite signal to an indoor unit of the satellite ground system (column 8, lines 38-43); and

uplink circuitry operative to receive an uplink signal from the indoor unit, process the received uplink signal (column 6, lines 39-42), and transmit the processed uplink

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signal to the satellites only when said downlink circuitry is receiving said satellite signal from said satellite and is frequency locked to said satellite signal from said satellite (column 4, lines 25-31).

Saunders does not disclose a system wherein the satellite signals are satellite television signals; and wherein the system simultaneously transmits and receives data.

In an analogous art, Ortega teaches a system wherein the satellite signals are satellite television signals (paragraph 27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the television broadcasting using satellites, taught by Ortega, in the system disclosed by Saunders. The motivation would have been that using satellites to broadcast television is a way of providing data to a large amount of users without a large data network being needed.

Saunders and Ortega do not disclose a system wherein the system simultaneously transmits and receives data.

In an analogous art, Tanabe teaches a system wherein the system simultaneously transmits and receives data (column 2, line 63 to column 3, line 7; Note: the appellant's Specification (page 24, lines 1-15) detail that the uplink only transmits when the downlink signal is received, as is taught by Tanabe.).

At the time of the invention it would have been obvious for one of ordinary skill to add the simultaneous receiving/transmitting taught by Tanabe to the system disclosed by Saunders and Ortega. The motivation would have been to enable more data to be

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received/transmitted as the waiting delay would be eliminated, therefore allowing the system to be more efficient.

Note: Saunders does not disclose an outdoor or indoor units, but the units in the block diagram could be located indoors, outdoors, or some combination thereof.

Claims 6 and 11 are rejected on the same grounds as claim 1.

Referring to claim 2, Saunders discloses an outdoor unit of claim 1, wherein the uplink circuitry is further operative to receive an uplink control signal (column 4, lines 61-62) indicating a frequency locked condition to signals from one of the first or second satellites from the indoor unit (column 4, lines 25-31).

Claims 7 is rejected on the same grounds as claim 2.

Referring to claim 3, Saunders discloses an outdoor unit of claim 2, wherein the uplink control signal comprises an uplink data signal and an uplink oscillator signal (column 5, lines 37-38).

Claims 8 and 13 are rejected on the same grounds as claim 3.

Referring to claim 4, Saunders discloses an outdoor unit (24) of claim 3, wherein the uplink oscillator signal is derived from one of the first or second satellite television signals (column 5, lines 5-7).

Claims 9 and 14 are rejected on the same grounds as claim 4.

Claims 5, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders in view of Ortega in view of Tanabe as applied to the claims above, and further in view of Kwentus.

Referring to claim 5, Saunders discloses a system wherein error correction is performed on the oscillator signal (figure 2, parts 214, 222, and 226).

Saunders, Ortega and Tanabe do not disclose an outdoor unit, wherein the uplink oscillator signal is derived from frequency conversion error data from one of the first or second satellite television signals.

In an analogous art, Kwentus teaches an outdoor unit, wherein the uplink oscillator signal is derived from frequency conversion error data from one of the first or second satellite television signals (paragraph 46, lines 2-3 and 6-9).

At the time of the invention it would have been obvious for one of ordinary skill in the art to use frequency error data to synchronize the system clock, as taught by Kwentus, in the system disclosed by Saunders, Ortega and Tanabe. The motivation would have been that the more accurate the system clock is, the more accurately the uplink data will be transferred.

Claims 10 and 15 are rejected on the same grounds as claim 5.

#### **(10) Response to Argument**

Page 5, paragraph beginning with "The invention of claim 1":

The appellant describes the invention of claim 1.

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Page 5, last paragraph:

The appellant argues that none of the references teach that “the uplink signal is conditioned on the simultaneous reception and frequency locking of a downstream signal” as is taught by the present invention. Firstly, the step of conditioning the uplink signal is not found in claim 1. Claim 1 recites that the uplink signal is processed. As is stated in the previous office action, Saunders does teach this limitation. Saunders teaches a method of monitoring a downlink signal to recover a symbol clock, which will be used to synchronize the uplink signals (column 4, lines 25-31). The user data is then encoded or spread for transmission in an uplink channel (column 6, lines 39-42). Therefore the system clock is frequency locked to the downlink signal and the user data is processed (or encoded) before being transmitted. According to the appellant’s specification (page 24, lines 1-15), the uplink signal is only transmitted when a downlink signal is received. This is to make sure that uplink signal is not transmitted when the satellite is available to receive data, which is shown by the receiver receiving data from the satellite. In the system taught by Saunders, the uplink data would only be transmitted when the downlink signal is received and the receiver’s system clock is locked to the downlink signal. As understood by the examiner, the appellant’s claimed invention (as defined in the specification) and the reference (Saunders) are teaching the same concept. Therefore the limitation is considered met by Saunders.

The appellant argues that Saunders does not teach simultaneous receiving and transmitting over the downlink and uplink channels. The best definition of the simultaneous transmission and receiving found in the specification (page 24, lines 1-15)



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states that the system waits to receive a downlink signal and then transmits the uplink signal. As this is what is performed by Saunders, this is interpreted as being simultaneous transmission and receiving as defined in the appellant's specification. Additionally, Saunders teaches that the satellite will monitor the uplink offset and transmit a new timing adjustment if the offset is too large (column 6, lines 50, lines 65). This is interpreted as being simultaneous transmitting and receiving as the receivers are regularly sending data to the satellite, and the satellite is regularly transmitting data to the receiver (column 4, lines 11-17).

Page 6, paragraph beginning with "The present invention":

The appellant argues that the previous mentioned limitation is used to confirm that a satellite antenna is actually tracking a satellite before transmitting a signal. This limitation is not found in claim 1, but Saunders teaches a system wherein uplink data is only transmitted once a downlink signal is received and the system clock is locked to the downlink signal, which would meet this limitation if added to the claims.

Page 6, paragraph beginning with "In contrast":

The appellant argues that while Saunders teaches a system for "transmitting the uplink channel to the satellite only after the common symbol transmit rate is established," where the symbol transmit rate is locked to the received downlink signal. The appellant again argues this does not meet the limitation that "the uplink signal is conditioned on the simultaneous reception and frequency locking of a downlink signal."

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Again, the claim does not state that the signal is conditioned, but is instead processed. Referring to the appellant's specification (page 24, lines 1-15), that the uplink signal is only transmitted once a downlink signal is received. As understood by the examiner, the claimed invention and Saunders are performing the same actions and therefore Saunders meets the claimed limitation.

Page 6, paragraph beginning with "Examiner":

The appellant argues that just because Saunders teaches frequency locking the system to the downlink signal in order to synchronize the uplink channel, that this does not meet the limitation of a conditional transmission system as claimed. Without a synchronized clock, how would Saunders know what frequency to transmit the uplink data at? The satellite would not be broadly searching a large frequency spectrum hoping to find a signal from a receiver, as this would not be efficient. The receiver would need to be frequency locked (which Saunders teaches is done using the downlink signal) so as to know what frequency to transmit. In this sense, Saunders does teach a conditional transmission system as it would only transmit once the downlink signal was received and the system clock was locked to the signal.

Page 6, last paragraph:

The appellant argues that as Saunders teaches a CDMA satellite system, the invention uses low earth orbit (LEO) or middle earth orbit (MEO) satellites. As this is limitation is not found in any of the claims, the argument is moot.

Page 7, first paragraph:

The appellant argues that Ortega also fails to teach the above limitation. The examiner agrees, but the argument is moot as it has been shown above that Saunders teaches the limitation.

Page 7, paragraph beginning with “Tanabe”:

The appellant argues that Tanabe also fails to teach the above limitation. The examiner agrees, but the argument is moot as it has been shown above that Saunders teaches the limitation.

The appellant also argues that Tanabe fails to teach “simultaneous transmission and reception.” Tanabe teaches that the answer signal is transmitted after the information signal is received, which matches the description of simultaneous transmission as defined in the specification (page 24, lines 1-15).

Page 7, last paragraph:

The appellant argues that the cited portion of Saunders (column 4, lines 61-62) does not teach a “control signal indicative of the downlink circuitry being locked.” This portion teaches that timing control information is transmitted in the downlink signal, which is used to lock the system clock (column 5, line 66 to column 6, line 7). This is interpreted by the examiner as meeting the claimed limitation.

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Page 8, paragraph beginning with "Claim 3":

The appellant argues that the cited portion of Saunders (column 5, lines 37-38) does not teach an "uplink control signal comprising an uplink data signal and an uplink oscillator signal." This portion teaches that timing control information is transmitted in the downlink signal using a synchronization word and time flywheel, which is used to lock the system clock (column 5, line 66 to column 6, line 7). This is interpreted by the examiner as meeting the claimed limitation.

Page 8, paragraph beginning with "Claim 4":

The appellant argues that the cited portion of Saunders (column 5, lines 5-7) does not teach an "uplink oscillator signal being derived from the satellite television signal." This portion teaches that timing control information is transmitted in the downlink signal using a synchronization word, which is used to lock the system clock (column 5, line 66 to column 6, line 7). This is interpreted by the examiner as meeting the claimed limitation.

Page 8, paragraph beginning with "Claim 6":

The appellant describes claim 6.

Page 8, last paragraph:

The appellant argues that as claim 6 contains the same limitations of claim 1, but in a means form, that it is considered allowable in view of the above arguments. As

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claim 1 is considered properly rejected as answered above, claim 6 is also considered properly rejected.

Page 9, paragraph beginning with "With regard to claim 6":

The appellant argues that as claim 6 contains the same limitations of claim 1, but in a means form, that it is considered allowable in view of the above arguments. As claim 1 is considered properly rejected as answered above, claim 6 is also considered properly rejected.

Page 9, paragraph beginning with "Claim 11":

The appellant describes claim 6.

Page 9, last paragraph:

The appellant argues that as claim 11 contains the same limitations of claim 1, but in a means form, that it is considered allowable in view of the above arguments. As claim 1 is considered properly rejected as answered above, claim 11 is also considered properly rejected.

Page 10, last paragraph:

The appellant describes claim 5.

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Page 11, paragraph beginning with "The Examiner":

The appellant again points out that "the uplink signal is conditioned on the simultaneous reception and frequency locking of a downstream signal" as is taught by the present invention is not found in any of the references. As this has been shown not to be true in the answers above, the argument is moot.

Page 11, paragraph beginning with "Kwentus":

The appellant quotes the abstract of Kwentus.

Page 11, last paragraph:

The appellant recites a portion of Kwentus and then states the examiner has not used the reference to reject the limitation that "the uplink signal is conditioned on the simultaneous reception and frequency locking of a downstream signal."

Page 12, section "CLAIM 10":

The appellant argues that as claim 10 contains the same limitations of claim 6, but in a means form, that it is considered allowable in view of the above arguments. As claim 6 is considered properly rejected as answered above, claim 10 is also considered properly rejected.

Page 12, section "CLAIM 15":

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The appellant argues that as claim 15 contains the same limitations of claim 5, but in a means form, that it is considered allowable in view of the above arguments. As claim 5 is considered properly rejected as answered above, claim 15 is also considered properly rejected.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Justin Shepard

/Justin E Shepard/

Examiner, Art Unit 2424

6/16/09

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